



A.D. 1857 . . . . . N<sup>o</sup> 224.

S P E C I F I C A T I O N

OF

JOHN FORTESCUE.

BAKERS' OVENS.

LONDON:

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*Price 5d.*

1857.





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A.D. 1857 . . . . . N° 224.

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**Bakers' Ovens.**

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**LETTERS PATENT** to John Fortescue, of No. 3<sup>A</sup>, Charles Street, Middlesex Hospital, London, in the County of Middlesex, Baker, for the Invention of “**IMPROVEMENTS IN THE CONSTRUCTION OF THE FURNACES OF BAKERS' OVENS FOR THE PURPOSE OF CONSUMING SMOKE, WHICH IMPROVEMENTS ARE ALSO APPLICABLE TO THE CONSUMPTION OF SMOKE IN OTHER FURNACES.**”

Sealed the 14th July 1857, and dated the 26th January 1857.

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**PROVISIONAL SPECIFICATION** left by the said John Fortescue at the Office of the Commissioners of Patents, with his Petition, on the 26th January 1857.

I, JOHN FORTESCUE, of No. 3<sup>A</sup>, Charles Street, Middlesex Hospital, London, 5 in the County of Middlesex, Baker, do hereby declare the nature of the said Invention for “**IMPROVEMENTS IN THE CONSTRUCTION OF THE FURNACES OF BAKERS' OVENS FOR THE PURPOSE OF CONSUMING SMOKE, WHICH IMPROVEMENTS ARE ALSO APPLICABLE TO THE CONSUMPTION OF SMOKE IN OTHER FURNACES,**” to be as follows:—

10 This Invention is designed principally for consuming smoke in the furnaces of bakers' ovens, but with slight modifications is also applicable to other furnaces.

The furnace is provided with outer and inner doors, and is furnished at the top, at the end next the oven, with a block or inverted bridge, extending 15 downwards across the furnace. Over the inner door is an opening, extending across the furnace, and the outer door is provided with a projecting block, which, when the outer door is closed fits into the said opening, and renders the same air-tight, or nearly so. When fresh fuel is supplied to the furnace



*Fortescue's Impts. in the Construction of the Furnaces of Bakers' and other Ovens.*

the outer door is left open and a current of air admitted, which in passing over the top of the furnace becomes heated, and is thrown downwards by the block or inverted bridge at the end, and meeting with the upward current of air through the furnace bars effectually consumes all the smoke and gases evolved from the fuel. The admission of the proper quantity of air necessary 5 to consume all the smoke is regulated by opening or closing the outer door of the furnace, which should not be left open wider than is necessary to admit the minimum amount of air required.

By the use of this Invention the draught is increased, the smoke is consumed or prevented, and a great economy in fuel effected. 10

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**SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed by the said John Fortescue in the Great Seal Patent Office on the 22nd July 1857.

**TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JOHN FORTESCUE**, of No. 3<sup>A</sup>, Charles Street, Middlesex Hospital, London, in the 15 County of Middlesex, Baker, send greeting.

**WHEREAS** Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-sixth day of January, in the year of our Lord One thousand eight hundred and fifty-seven, in the twentieth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto 20 me, the said John Fortescue, Her special licence that I, the said John Fortescue, my executors, administrators, and assigns, or such others as I, the said John Fortescue, my executors, administrators, and assigns should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might 25 make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN THE CONSTRUCTION OF THE FURNACES OF BAKERS' OVENS FOR THE PURPOSE OF CONSUMING SMOKE, WHICH IMPROVEMENTS ARE ALSO APPLICABLE TO THE CONSUMPTION OF SMOKE IN OTHER FURNACES,**" upon the condition (amongst 30 others) that I, the said John Fortescue, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next 35 and immediately after the date of the said Letters Patent.



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*Fortescue's Impts. in the Construction of the Furnaces of Bakers' and other Ovens.*

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NOW KNOW YE, that I, the said John Fortescue, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement in writing, and on reference to the accompanying Sheet of Drawings, 5 that is to say:—

My Invention is designed principally for consuming smoke in the furnaces of bakers' ovens, but with slight modifications is also applicable to other furnaces. The furnace is provided with outer and inner doors, and is furnished at the top, at the end next the oven, with a block or inverted bridge, 10 extending downwards across the furnace. Over the inner door is an opening, extending across the furnace, and the outer door is provided with a projecting block, which, when the outer door is closed, fits into the said opening, and renders the same air-tight, or nearly so. When fresh fuel is supplied to the furnace the outer door is left open and a current of air admitted, which 15 in passing over the top of the furnace becomes heated, and is thrown downwards by the block or inverted bridge at the end of the furnace, and meeting with the upward current of air through the furnace bars effectually consumes all the smoke and gases evolved from the fuel. The admission of the proper quantity of air necessary to consume all the smoke is regulated 20 by opening or closing the outer door of the furnace, which should not be left open wider than is necessary to admit the minimum amount of air required.

By the use of this Invention the draught is increased, the smoke is consumed or prevented, and a great economy in fuel is effected.

Such being the nature and object of my said Invention of "Improvements 25 in the Construction of the Furnaces of Bakers' Ovens for the Purpose of Consuming Smoke, which Improvements are also applicable to the Consumption of Smoke in other Furnaces," I will proceed to describe the manner of carrying the same into practical effect. And in order that the same may be readily understood I have annexed unto these Presents a Sheet of Drawings 30 illustrative thereof, and have marked the same with figures and letters of reference, corresponding with those in the following explanation thereof, similar letters of reference being placed upon corresponding parts of the apparatus in all the Figures.

Figure 1 in the Drawing represents a front view of the furnace of a bakers' 35 oven with my improvements applied thereto, the outer door of the furnace being represented as open; Figure 2 is a vertical section, taken in a longitudinal direction through about the centre of the furnace, both doors being shewn closed; and Figure 3 is an horizontal section, taken through about the line A, B, in Figure 1.



*Fortescue's Impts. in the Construction of the Furnaces of Bakers' and other Ovens.*

A, A, are the side walls of the furnace; B, B, the top; and C, C, the fire bars; D, D, is the inverted bridge (see Figure 2), extending across the furnace at the end nearest to the oven; E, E, is the outer door of the furnace; and F, F, the inner door of the same. Over the inner door is an opening G, G, extending across the furnace, and the outer door is provided with a projecting 5 block H, H, which (when the outer door is closed) fits into the opening G, G, and renders it air-tight, or nearly so. In using this furnace so as to consume or prevent smoke, the back part of the furnace bars, from about the point \*, \*, must be kept clear of fuel. When fresh fuel is supplied to the furnace and the outer door E, E, is left open, a current of air is admitted through the 10 opening G, G, which passing over the fuel becomes heated, and is thrown downwards by the inverted bridge D, D, and meeting at an angle with the current of air passing upwards through the furnace bars, as represented by the arrows, effectually prevents or consumes all the smoke and gases evolved from the fuel. 15

Having now described the nature and object of my said Invention of "Improvements in the Construction of the Furnaces of Bakers' Ovens for the Purpose of Consuming Smoke, which Improvements are also applicable to the Consumption of Smoke in other Furnaces," together with the manner of carrying the same into practical effect, I desire it to be understood that I claim, as my 20 Invention, the general construction and arrangement of furnace for consuming or preventing smoke, as shewn in the Drawings, and above described, or any modification thereof whereby the same end is or may be attained.

In witness whereof, I, the said John Fortescue, have hereunto set my hand and seal, the Eleventh day of July, in the year of our Lord One 25 thousand eight hundred and fifty-seven.

J. FORTESCUE. (L.S.)

Witness,

BRISTOW HUNT,

Sol<sup>r</sup>, & Patent Agent,

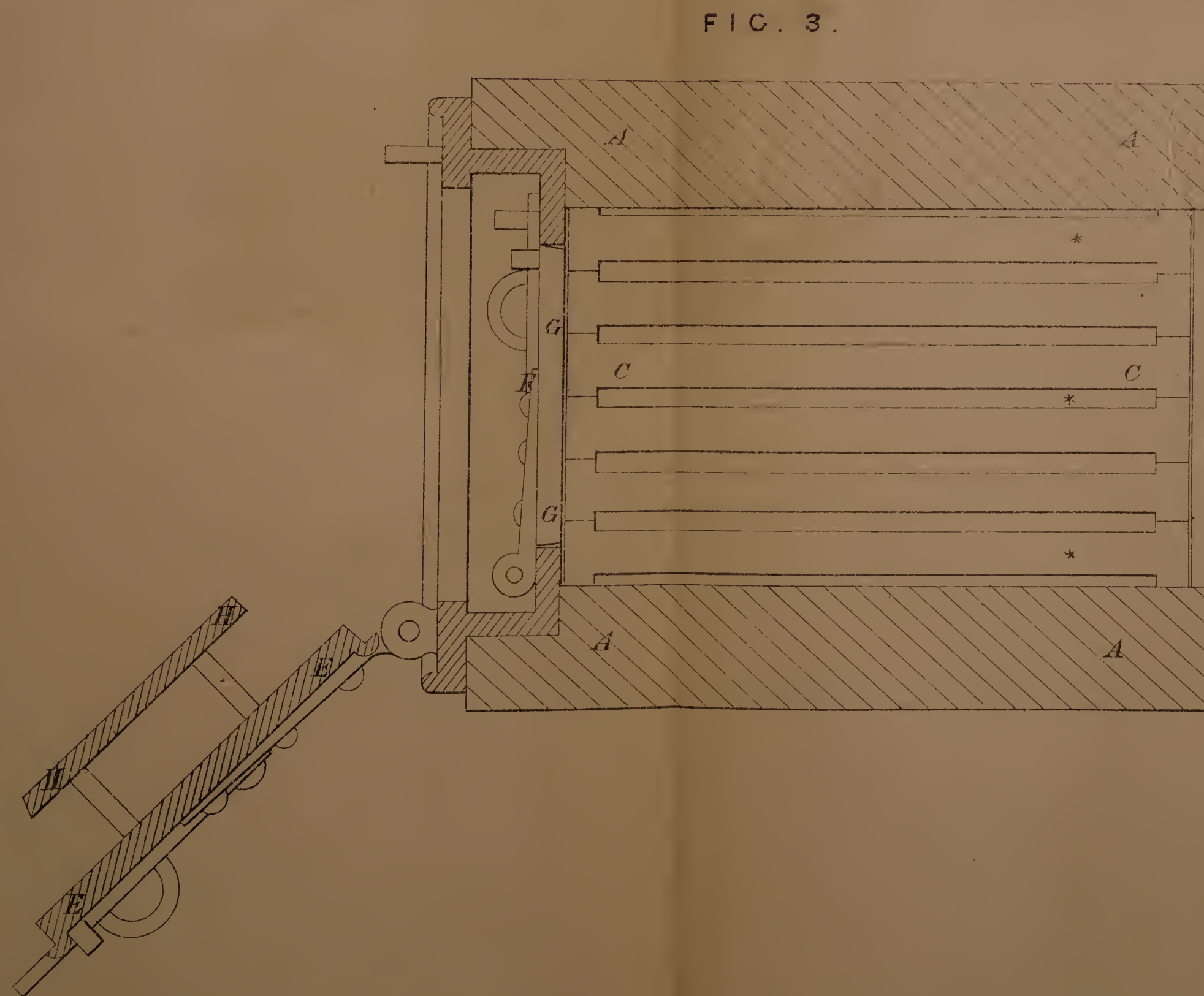
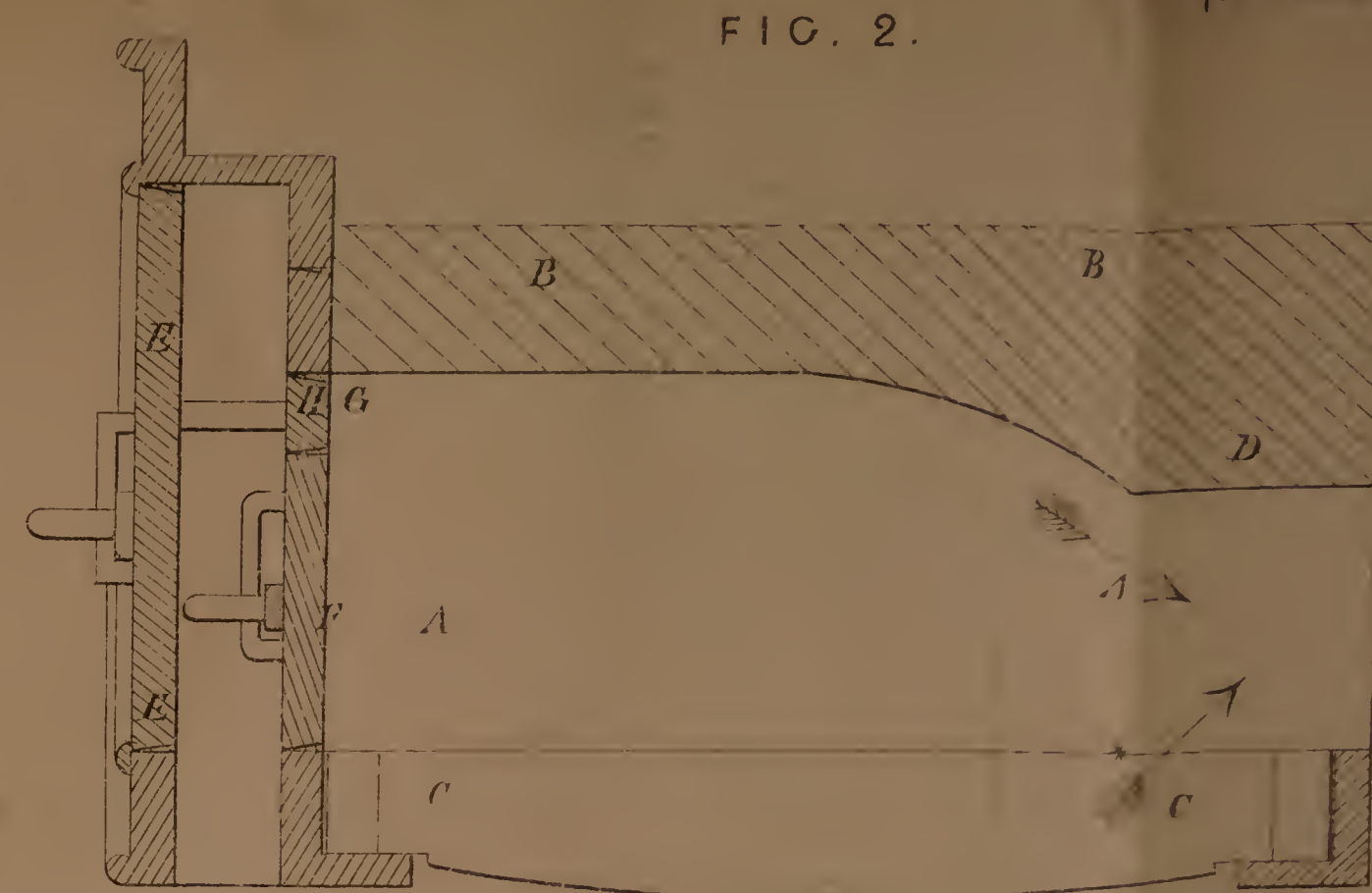
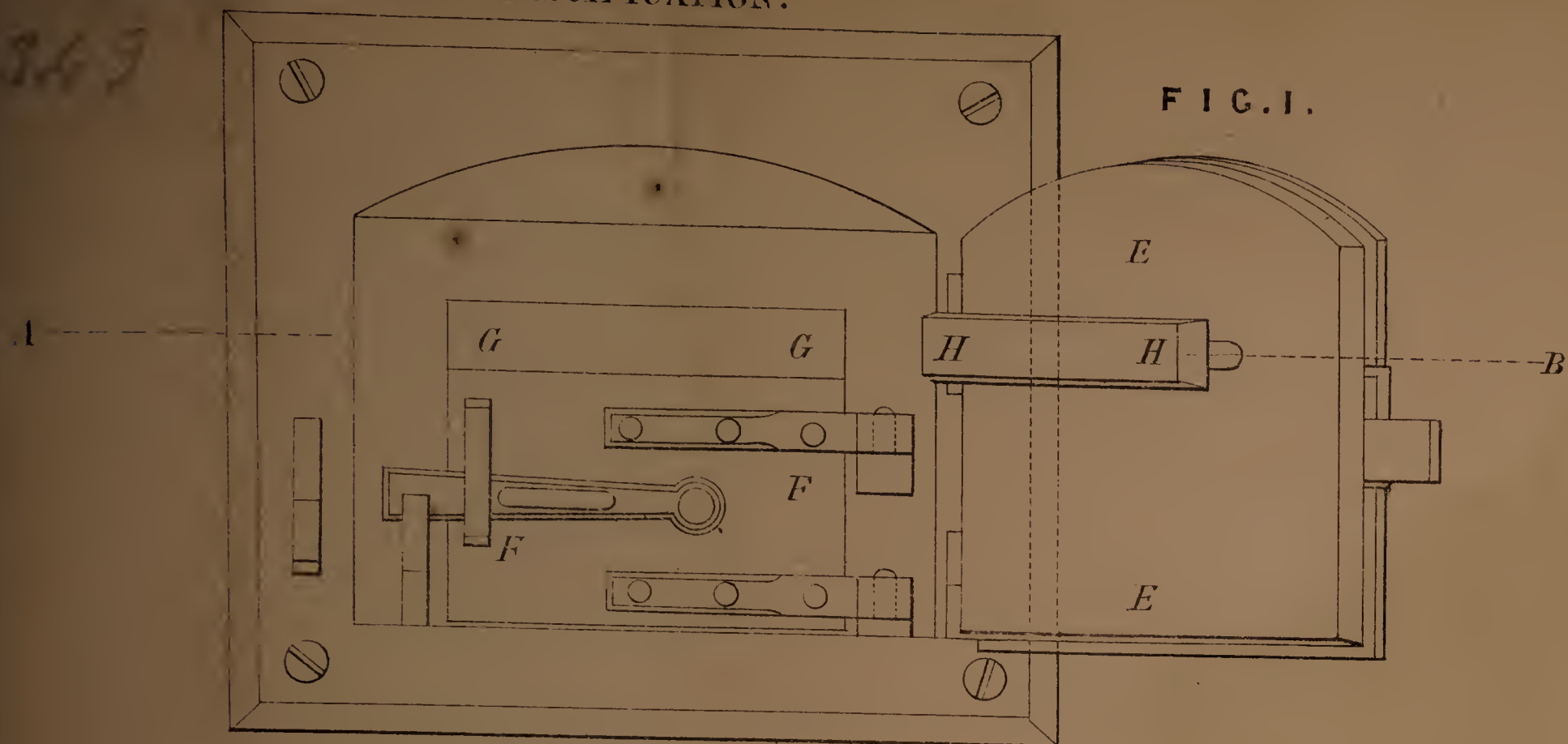
1, Serle Street, Lincoln's Inn.

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The filed drawing is not colored.

Drawn on Stone by Malby & Sons.

